

**Amendments to the Claims:**

The following is a listing of the claims which replaces all prior versions and listings of claims in this application.

It is noted that the changes shown below have been made to the claims as presented in the amendment filed June 15, 2007, and both that amendment and this amendment taken together show changes to the claims as of record in this case at the time of the Office Action of March 15, 2007. The changes of this amendment were made to the prior amendment as opposed to the Claims as they existed at the time of the prior Office Action of March 15<sup>th</sup> based on the belief that the Amendment of June 15, 2007 has been entered into the case and also so that the Examiner could more readily see the current changes that have been made in response to the Office communication of September 7, 2007.

**Listing of Claims:**

**1. (currently amended)** A method of providing a signaling channel for performing one or more signaling functions at an Ethernet level wherein telecommunication is organized by using Ethernet information packets forming an information flow, the method comprising:

monitoring at least one of ~~the following:~~ said Ethernet information packets of said information flow, and external instructions;

based on results of the monitoring, producing service packets multiplexable with said Ethernet information packets, and introducing, into said service packets, data on a specific one of said ~~one or more~~ signaling functions [[,]] to be performed, said data being at least an indication of [[a]] said signaling function to be performed;

forming from said service packets at least one service flow at the Ethernet level, wherein said service packets belonging to a specific service flow carry said indication of ~~a corresponding specific one of said signaling functions~~ function to be performed;

multiplexing packets of said at least one service flow with packets of said information flow thus forming a combined flow; and

utilizing for the telecommunication said combined flow comprising said information flow and said at least one service flow while said at least one service flow creates said signaling channel at the Ethernet level.

**2. (currently amended)** The method according to Claim 1, the method providing said signaling channel at the Ethernet level between a first and a second operating points in a network domain, said first and second operating points being referred to as ~~the~~ two basic operating points, the method further comprising ~~the steps of~~:

arranging at said first operating point a source adaptation element capable of receiving said information flow from a first Ethernet device,

arranging at said second operating point a sink adaptation element capable of transmitting said information flow to a second Ethernet device,

at said source adaptation element, producing ~~the~~said service packets forming said at least one service flow at the Ethernet level, ~~[[and]]~~

multiplexing said service packets of said at least one service flow with said Ethernet information packets of said information flow, thereby obtaining said combined flow,

transmitting data comprised by said combined flow via ~~the~~ said network domain from said source adaptation element to said sink adaptation element, and

at said sink adaptation element, extracting said service packets of said at least one service flow from said combined flow and processing said service packets, thereby performing at least said ~~specific one of said signaling functions~~ function to be performed.

**3-4. cancelled.**

**5. (currently amended)** The method according to Claim 2, the method further comprising:

arranging one or more monitoring points between said ~~first and second~~two basic operating points.

**6. (previously presented)** The method according to Claim 2, the method further comprising:

arranging, between said two basic operating points at least one additional operating point comprising at least one additional source or sink adaptation element, thereby forming two or more signaling channels between said two basic operating points.

**7.(previously presented)** The method according to Claim 2, wherein a span of the network domain between said two basic operating points consists of segments which belong to Ethernet only, thereby enabling creation of said combined flow in a pure Ethernet environment.

**8. (previously presented)** The method according to Claim 2, wherein a span of the network domain between said two basic operating points comprises at least one segment of a transport network, the method further comprising:

preserving said signaling channel during a transmitting of said combined flow via the transport network.

**9. (currently amended)** The method according to Claim 1, the method further comprising ~~at least one step from the following list:~~

mapping packets of said combined flow into frames of a transport network for transmitting said Ethernet information packets and said service packets via ~~the~~ said transport network[[,]]

~~de-mapping frames of a transport network incorporating said combined flow, for separating said frames therefrom, thereby preserving said signaling channel at the Ethernet level .~~

**10. (currently amended)** The method according to Claim 8, further comprising ~~the following steps :~~

mapping packets of said combined flow into frames of ~~the~~ said transport network for transmitting said Ethernet information packets and said service packets via [[the]] said transport network,

de-mapping said frames of [[the]] said transport network incorporating said combined flow, for separating said frames therefrom, thereby preserving [[the]] said signaling channel at the Ethernet level.

**11. (currently amended)** The method according to Claim 1, wherein at least one of said service packets has a header, the method further comprising:

indicating ~~a particular signaling function~~ said specific one of said signaling functions to be performed in said header of said at least one of said service packets, and providing further data on said ~~particular~~ specific one of said signaling functions in a data field of said at least one of said service packets.

**12. (currently amended)** The method according to Claim 1, wherein said one or more signaling functions are selected from at least ~~the following~~:

a plurality of performance monitoring functions including at least one Tandem Connection function,

- a one way and round trip delay measurement function,
- a far end status function,
- a connection integrity check function,
- a buffer fill check function,
- a function for enabling congestion indication and rate control.

**13- 17. cancelled**

**18. (currently amended)** A system for creating a first signaling channel and for analyzing a second signaling channel, both of said first and second signaling channels intended for performing one or more signaling functions at an Ethernet level, the system comprising a source adaptation element and a sink adaptation element, wherein the source adaptation element is for creating the first signaling channel to be transmitted with an outgoing information flow formed by outgoing Ethernet information packets, and is capable of:

monitoring at least one of ~~the following~~: said outgoing Ethernet information packets, and external instructions,

based on results of the monitoring, producing outgoing service packets multiplexable with said outgoing Ethernet information packets, and introducing, into said outgoing service packets, data on ~~said a specific one or more of said~~ signaling functions to be performed, said data being at least an outgoing indication of ~~[[a]]~~ said signaling function to be performed;

forming from said outgoing service packets at least one outgoing service flow at the Ethernet level, wherein ~~the~~ said outgoing service packets belonging to a specific service flow

carry said outgoing indication of ~~a corresponding specific one~~ of said signaling function[[s]] to be performed; and

multiplexing packets of said outgoing information flow and packets of said at least one outgoing service flow, thus obtaining an outgoing combined flow, wherein ~~the~~ said first signaling channel comprises said at least one service flow ; and

the sink adaptation element is for terminating the second signaling channel and is capable of:

receiving an incoming combined flow comprising an incoming information flow of incoming Ethernet information packets and at least one incoming service flow, wherein said at least one incoming service flow is comprised by said second signaling channel and comprises incoming service packets multiplexed with said incoming Ethernet information packets;

demultiplexing said incoming combined flow to separate therefrom said at least one incoming service flow, wherein said incoming service packets belonging to ~~a specific~~ said at least one incoming service flow carry an indication of ~~a corresponding said specific one or another~~ of said signaling functions to be performed; and

analyzing said at least one incoming service flow to perform at least said specific one or said another of said signaling functions respectively assigned to said ~~specific at least one~~ incoming service flow .

**19. cancelled.**

**20. (currently amended)** The system according to Claim 18, wherein the first signaling channel and the second signaling channel are ~~the~~ a same signaling channel.

**21. (currently amended)** A method for providing a signaling channel for performing one or more signaling functions at an Ethernet level wherein telecommunication is organized by using Ethernet information packets forming an information flow, the method comprising:

monitoring at least one of ~~the following~~; said Ethernet information packets of said information flow, and external instructions;

based on results of the monitoring, producing service packets multiplexable with said Ethernet information packets, and introducing, into said service packets, data on a specific one of said ~~one or more~~ signaling functions to be performed, said data being at least an indication of ~~[[a]]~~ said signaling function to be performed;

forming from said service packets at least one service flow at the Ethernet level, wherein said service packets belonging to a specific service flow carry said indication of ~~a corresponding specific~~ said signaling function to be performed; and

multiplexing packets of said at least one service flow with packets of said information flow thus forming a combined flow, while said at least one service flow is comprised by the signaling channel at the Ethernet level;

wherein said one or more signaling functions enable achieving for the telecommunication at least one of ~~the following objectives for the telecommunication~~:

performance monitoring;

far end status indication, including remote failure indication;

remote loopback, including one way and round trip delay measurement;

link monitoring, including connection integrity check;

buffer fill check;

congestion indication; and

rate control.

**22. (currently amended)** A set of adaptation equipment for an Ethernet network node communicating with a transport network, the set supporting at least one signaling channel at an Ethernet level, the set comprising at least one of ~~the following elements~~:

a source adaptation element for creating an outgoing signaling channel for performing one or more signaling functions at the Ethernet level; and

a sink adaptation element for terminating an incoming signaling channel for performing said one or more signaling functions at the Ethernet level, wherein said source adaptation element comprises:

a monitor for monitoring at least one of ~~the following~~: outgoing Ethernet information packets forming an outgoing information flow, and external instructions;

a source function block for producing service packets multiplexable with said outgoing Ethernet information packets based on results of the monitoring, wherein said source function block introduces, into said service packets, data on said one or more signaling functions, said data being at least an indication of a specific one of said signaling functions to be performed, and wherein said source function block forms from said service packets at least one outgoing service flow at the Ethernet level, wherein said service packets belonging to a particular outgoing service flow carry said indication of ~~[[a]]~~ said specific one of said signaling functions to be performed,

a multiplexer for multiplexing packets of said at least one outgoing service flow with said outgoing Ethernet information packets thus obtaining an outgoing combined flow, wherein the outgoing signaling channel comprises said at least one outgoing service flow, and

a mapping block for mapping packets of said outgoing combined flow into frames of the transport network for transporting thereof via the transport network; and



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wherein said sink adaptation element comprises:

a de-mapping block which receives frames of the transport network that envelope an incoming combined flow, and de-maps the received frames of the transport network thus obtaining therefrom the incoming combined flow comprising an incoming information flow of incoming Ethernet information packets and at least one incoming service flow, wherein said at least one incoming service flow comprises incoming service packets multiplexed with said incoming Ethernet information packets,

a de-multiplexer for demultiplexing said incoming combined flow to separate therefrom said at least one incoming service flow, wherein said service packets belonging to said at least one incoming service flow carry an indication of [[a]] said specific one or another of said signaling functions, and

a sink function block for analyzing said at least one incoming service flow to perform at least said specific one or said another of said signaling functions respectively assigned to said incoming service flow .

**23. (previously presented)** The system according to Claim 18, the system further comprising a mapping block for transmitting said outgoing combined flow via a transport network, thereby ensuring transmission of the first signaling channel via the transport network.

**24. (previously presented)** The system according to Claim 18, the system further comprising a de-mapping block for obtaining said incoming combined flow from frames of a transport network which envelope said incoming combined flow, thereby ensuring reception of the second signaling channel via the transport network and analysis thereof at the Ethernet level.

**25. (new)** The method according to Claim 1, the method further comprising:

de-mapping frames of a transport network incorporating said combined flow, for  
separating said frames, thereby preserving said signaling channel at the Ethernet level.